

Remarks

In section 2 of the office action the Examiner rejects claim 1 under 35 U.S.C. §102(b) as being anticipated by Chu (US 5,890,055). Chu describes "a wireless communication system" which "includes a number of clusters of repeaters" (Chu, abstract). As discussed in the previous response Chu does not disclose a system in which "a common modulated radio frequency carrier signal is used in both the distribution network and over a said wireless connection to communicate said data between a said subscriber equipment and the base station" where "said wireless connection" connects "one or more proximate subscriber equipment to the distribution network" (this application, claim 1 emphasis added). In order to more clearly demonstrate the fundamental differences between the system of claim 1 and that of Chu, the Applicants attach a diagram showing two pictorial representations. Basis for the representation of claim 1 can be found in claim 1 of this application and basis for the representation of Chu is detailed in the diagram. If, for any reason, the faxed version is unclear, Applicants can mail or email a copy to the Examiner.

The system of Chu comprises a base station (110) which is connected to a hub (104) by a high speed transmission link (40) which may be a fiber optic link (numerals refer to Chu, Figure 1). As described in the specification of Chu in column 6 lines 51-62 this link between the base station and the hub operates with a carrier frequency of between 1 and 6MHz. The hub is in turn connected to one or more repeaters (100-103) via a millimeter wave link (e.g. between antennas 30 and 34, 31 and 36, 32 and 37 and 33 and 35). This link operates at a carrier frequency of 38GHz or more (Chu, column 5 line 9). The final link from the repeater to the subscriber which is equivalent to "said wireless connection" in claim 1 of this application operates in the system of Chu within the PCS band (e.g. between antenna 20 and wireless phone 10). Chu teaches three possible carrier frequencies for this link being 900MHz, 2.45GHz and 18GHz (Chu, column 4 lines 59-63). It is therefore clear that the system of Chu does not and cannot have "a common modulated radio frequency carrier signal" "used in both the distribution network and over a said wireless

connection" (this application, claim 1). This fact is further reinforced by the teaching of Chu which describes and shows clearly in Figure 3 that the repeater (100-103) includes a frequency converter 302, 308 (Chu, column 5 line 19) and furthermore, the hub also performs down conversion from the millimeter wave link to an intermediate frequency of 500MHz and then to a near base band signal of 1-6MHz which can then be used to modulate the laser for the fiber optic link (Chu, column 8 lines 51-62). As each element in the system of Chu performs frequency conversion it is not possible that a common carrier frequency is used in both the distribution network and over the wireless connection to the subscriber. Yet further evidence is provided in Chu, column 5 lines 6-10 which state that "regardless of the operating frequency of repeaters 100-103 they communicate with respective hubs 104-105 via a line of sight millimetre wave link that may operate, for example, at a frequency near 38GHz or higher" (emphasis added). Therefore, Chu is clearly not teaching any relationship between the carrier frequencies in the different links within the system.

Consequently the present invention as defined by claim 1 discloses an invention which is clearly not anticipated by Chu since Chu does not disclose use of a common modulated radio frequency carrier signal in both the distribution network and over the wireless connection between the distribution network and the subscriber equipment. The Applicants therefore respectfully submit that the rejection of claim 1 cannot be sustained.

In section 1 of the office action in response to the Applicants arguments filed April 18, 2004, the Examiner highlights two sections of the specification of Chu. The Examiner argues that Chu, column 3 line 49 to column 4 line 5 is relevant to the present application. The Applicants respectfully submit that this is not the case. Column 3 lines 49-60 discusses that the same millimeter wave channel can be used to connect a first hub with a first repeater and also to connect a second hub with a second repeater. This is simply describing frequency reuse over the hub to repeater links and does not relate to the repeater to subscriber link and therefore cannot

relate to subject matter of claim 1. Column 3 line 61 to column 4 line 5 describes the operation of the high speed transmission facility (40) which links the base station and the hub. As described earlier, this may be implemented as a fiber optic cable. This section describes that translation is required (column 3 line 67) and this is explained in more detail later in the specification in column 6 lines 51-62 which has already been discussed. Without this translation in frequency the system of Chu would not operate because directly modulated lasers available today in 2004 cannot physically operate at 38GHz, so the frequency translation is essential even now for the system to work and this would have been even more necessary back in 1995 when the system of Chu was developed.

The Examiner also cites a passage in column 6 lines 26-33 and highlights the fact that the specification describes that the hub and the repeater have some hardware components in common. This has no bearing on the subject of claim 1 and indeed is entirely to be expected as the hub and repeater are connected by a two way millimeter wave link and so would each require transmitter and receiver hardware for millimeter signals in order to be able to communicate over this link. Indeed Chu cites a "millimeter wave antenna" as one such example of the common hardware.

The Examiner also cites Rypinski (US 5,461,627). Rypinski describes "an improved message based access protocol and method for a common channel radio voice data communication network" (Rypinski lines 6-10). Rypinski additionally does not disclose use of "a common modulated frequency carrier signal" "in both the distribution network and over a said wireless connection to communicate said data between a said subscriber equipment and the base station" (this application, claim 1). Instead Rypinski teaches use of a frequency of 2.5GHz for the wireless link (Rypinski, column 7 line 48) and teaches that the access point translates this carrier frequency from RF to base band giving the example base band data rate of 10-20Mbit/s (Rypinski, column 7 lines 48-53).

Finally, the Examiner cites Knop (US 6,480,163) which describes "a radiating coaxial cable" (Knop, abstract). Knop does not describe a wireless communication system and does not teach any of the features of claim 1.

Consequently the present invention as defined by claim 1 is clearly both novel and not obvious having regard to this combination of prior art teachings, and the Applicants respectfully submit that the Examiner's rejection cannot be sustained.

The Examiner also rejects independent claims 10 and 12 under 35 U.S.C. §102(b) as being anticipated by Chu. The above arguments in relation to claim 1 are also applicable to independent claims 10 and 12 and the Applicants respectfully submit that the rejection of these claims cannot also be sustained.

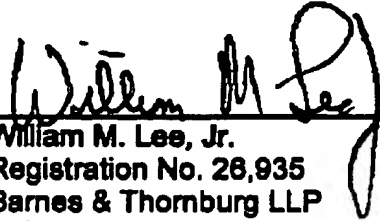
Detailed arguments are not presented in respect of the dependent claims. However the arguments of the Examiner should not be taken to be accepted.

The Applicants realize that this response is being filed following a final rejection. It is submitted that this response ought to be entered and fully considered since not only have no new issues or amendments been raised, but rather issues have been reduced since the Applicants have responded to each of the concerns of the Examiner and it is believed, satisfied them.

In view of the fact that all of the Examiner's comments have been addressed, further and favorable consideration is respectfully solicited.

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Respectfully submitted,



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